14.3

Writing Proportions

Today's Learning Goals:

- Write proportions.
- Solve proportions using mental math.

Do Now

Write two equivalent ratios for the given ratio.

1) $\frac{10}{15}$

2) $\frac{6}{14}$

3) $\frac{12}{20}$

Methods to check if proportional

$\frac{8}{10}$ ***and*** $\frac{12}{15}$

Multiply a number to numerator and denominator one ratio to make it equal to the other one	
Simplify both ratios to simplest form	
Convert each into decimals	

Methods to check if proportional

$$\frac{8}{10} \textit{ and } \frac{12}{15}$$

Cross-Multiply. The cross-products should be equal to each other.	

Writing Proportions from a Table

Black Bean Soup

1.5 cups black beans
0.5 cup salsa
2 cups water
1 tomato
2 teaspoons seasoning

A chef increases the amounts of ingredients in a recipe to make a proportional recipe. The new recipe has 6 cups of black beans. Write a proportion that gives the number *x* of tomatoes in the

	Original Recipe	New Recipe
Black Beans		
Tomatoes		

Writing Proportions from a Table

Aidan spent 6 dollars on 2 downloaded songs last month. This month he bought 3 songs. Write a proportion that would help figure the total cost he spent this month.

	Last Month	This Month
Purchased		
Total Cost		

Solving Proportions Mentally

Solve the missing variable in the proportion mentally.

1) $\frac{3}{2} = \frac{x}{8}$

2) $\frac{8}{5} = \frac{n}{15}$

Practice

Solve the missing variable in the proportion mentally.

3) $\frac{5}{8} = \frac{20}{d}$

4) $\frac{7}{z} = \frac{14}{10}$

5) $\frac{21}{24} = \frac{x}{8}$

Writing and Solving Proportions

There are 27 students in a classroom. If the ratio of girls to the total amount of students is 1:3, how many girls are there in the class?

Practice

The ratio of quarts to gallons is 4:1. If a recipe calls for 36 quarts, how many gallons would be needed?